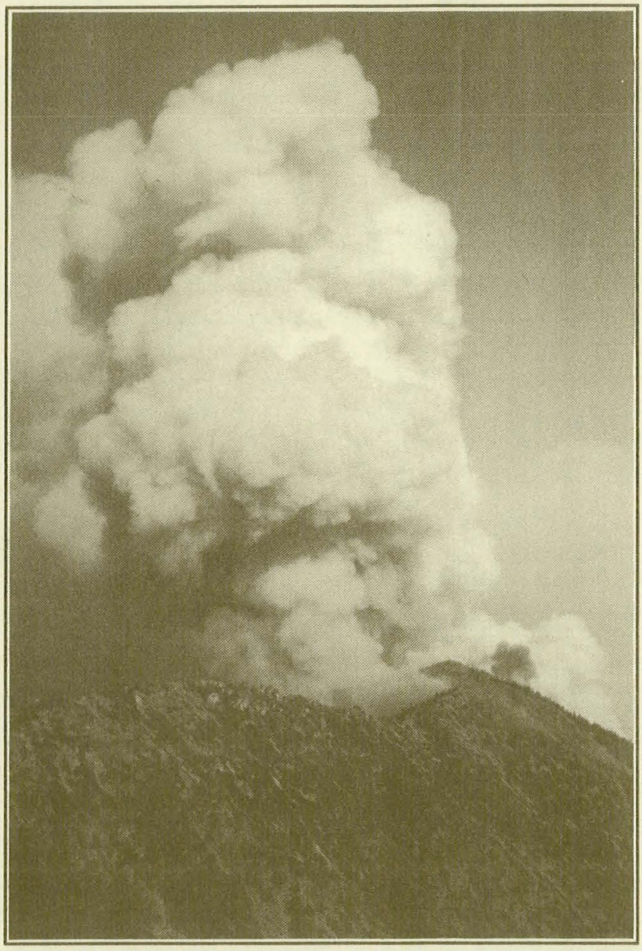
1987 Fire Season



Siskiyou National Forest

Pacific Northwest Region
USDA • Forest Service

Introduction

On the evening of August 30, 1987, a dry lightning storm moved through southern Oregon and northern California. The storm started over 1600 fires, which burned a total of 950,000 acres. In Oregon, the hardest hit area was the Siskiyou National Forest, where 3 major fire complexes, the Longwood, Galice, and Silver, burned 110,087 acres of National Forest lands. The 1987 fire season was the third worst in the Siskiyou National Forest's 80 year history, and the worst since 1918.

Weather

The 1987 Fire Season was the longest on record in southwestern Oregon, running 196 days, starting 3 weeks earlier than normal and closing November 11. It was the area's third consecutive year of below normal precipitation.

The winter and spring months were exceptionally dry. Though some precipitation was received in June and July, it was not enough to reverse the effects of the drought on the area. The month of August was very hot, with record high temperatures reached on 3 different days in Grants Pass. Temperatures exceeded 100 degrees at many of the weather stations on the Forest the day of the storm.

The normal fall rains failed to come, with precipitation amounts for September and October the lowest on record for some stations. The results were record low fuel moistures and explosive fire conditions long after the normal fire season.

Longwood Complex

The Longwood Fire, on the Illinois Valley Ranger District, started in a felled and bucked harvest unit. Initial attack crews were on-site within 1/2 hour of discovery, but the fire was spreading rapidly with high intensities in the unit, making direct attack impossible. The fire overran 5 other starts in the area, 3 of which had been initial attacked. On the second day, the fire made a major run, which threatened the community of Takilma. With homes scattered throughout the timbered area surrounding the valley floor, the fire had the potential of burning numerous homes. Protection of structures and property became the number one priority, and all of the crews and equipment available were assigned to protect homes. One home and 5 outbuildings were destroyed by the fire.

To aid in the suppression effort, 680 members of the United States Army's 2nd Battalion, 27th Light Infantry, out of Fort Ord, California were trained and mobilized to the Longwood Fire. Following the Longwood Fire, the Army contingent was moved to the Silver Fire. This was the first time since 1910 that the U.S. Army has been involved in wildland fire suppression.

The fire was controlled on September 10, burning a total of 9,916 acres, of which 8,256 acres were National Forest lands in 2 states, 160 acres of BLM land, and 1500 acres of private land.

The Longwood Complex also included 2 fires in the Siskiyou Wilderness, the Chicago and Whiskey Fires. These fires were detected on August 30, but due to the number of higher priority fires burning at that time, no suppression resources were available for initial attack. Until resources were available, the fires were monitored continuously from the air and on the ground. No suppression actions were taken on the Whiskey Fire, and the final suppression strategy of confinement was obtained on October 3rd, with a final size of 100 acres. Suppression efforts on the Chicago Fire were limited to actions needed to insure it did not burn out of the Wilderness. The Chicago Fire was confined on October 3rd, after burning a total of 556 acres.

Galice Complex

The Galice Complex was 5 fires which eventually burned together. The Jimbo, Can, and Field Fires started on National Forest lands, and the Howard and North Fork Galice Creek Fires started on BLM lands protected by the Oregon Department of Forestry. Because the fires were burning on both National Forest and State of Oregon protected lands, a Unified Command was established, with an Incident Commander from the Forest Service and one from the Oregon State Department of Forestry.

Initially, there was concern that the fire would merge with the Silver Fire, to the southwest. There was also concern for the homes and structures in the Taylor Creek and Galice Creek areas; however, crews were able to contain the fire before it actually threatened structures or burned together with Silver. One storage building was destroyed in the Lost Flat area. The fire's northern progress was halted at the Rogue River. The fire was controlled on September 26.

For much of the fire, smoke was too thick to allow air support from air tankers or helicopters. In addition, road access was poor, so crews were forced to make long hikes to reach assignments. To reduce travel time, crews were camped on the line from 2 to 3 days at a time before returning to base camp. This is referred to as Coyote Tactics.

Silver Fire

The largest and longest burning of the fires was Silver, covering 96,540 acres and burning 72 days from start to final control on November 9.

The fire started in the North Kalmiopsis Roadless area, known for its steep, rugged terrain and dense vegetation. The fire was initial-attacked by 21 smokejumpers, working in conjunction with retardant planes, which dropped over 24,000 gallons of retardant on the fire that first day. The smokejumpers were forced to retreat due to the extreme fire behavior. Dense smoke covered the fire, making it difficult for fire managers to assess the fire's progress. To aid in this effort, infrared photographs were taken from the air. On September 3, the fire burned together with the Lazy Fire, and was 18,000 acres by the end of the day. The Fire entered the Wilderness on the next day, and crossed the Illinois River on September 27.

Due to the steep terrain and lack of roads, access was limited to long hike-ins and helicopter shuttles on most of the fire. The helicopter operation was one of the largest ever conducted for fire suppression, with a total of 25 helicopters used on the fire.

The fire was zoned due to its size and complexity, with a fire overhead team assigned to the north zone and one assigned to the south zone. Because of the length of time the Silver Fire burned, most of the crews and overhead were released after approximately 3 weeks and replaced with fresh personnel. A total of 7 fire overhead teams worked on the Silver Fire.

Acres and Costs

	Longwood*	Galice	Silver
Acres - Total	10,572	21,140	96,540
FS	8,912	4,935	96,240
BLM	160	16,205	300
Private	1,500	0	0
Wilderness	656	0	53,340
Miles of Line	27	29	113
Cost	$3.3 Mil.	$4.8 Mil.	$19 Mil.

*Acres for Chicago and Whiskey included.

Resources Utilized

The suppression effort demanded large numbers of personnel and equipment. At the height of activity, 22,000 people were mobilized to southern Oregon and northern California. On the Siskiyou, personnel came form 44 states, the District of Columbia, and Canada to fight the fires. The following is a summary of resources utilized on the fires.

Resource	Silver	Longwood	Galice	Total
Fallers	68	20	23	111
Tractors	20	13	16	49
Tenders	30	13	22	65
Engines	22	22	51	95
Hand Crews	127	34	50	211
Personnel	5052	1661	1699	8412

Cooperating Agencies

Bureau of Land Management
Bureau of Indian Affairs
Ministry of Forests, British Columbia
National Fish and Wildlife Service
National Park Service
National Weather Service
Oregon National Guard
State Agencies from across the country
U.S. Forest Service from all Regions
United States Army

In addition to personnel from government agencies, private industry was heavily involved on the fireline and in camp. Industry provided fallers, crews, dozers, engines, water tenders, helicopters, road building equipment, shower units, and caterers. In addition to private industry, numerous private citizens were hired locally on a temporary basis to assist in the suppression effort.

The entire suppression effort required an estimate 1.3 million hours of personnel time. Despite personnel working long hours in hazardous conditions, no serious injuries or fatalities occurred.

Aircraft Use

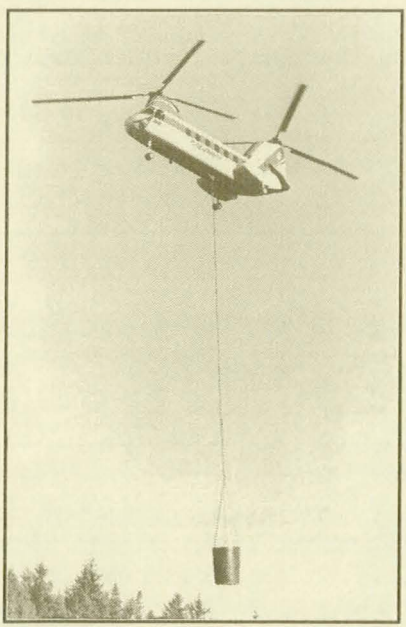
Because of the remote nature of these fires, helicopters were a vital tool for moving personnel, equipment and water. Though helicopters were heavily used, there were many days when little or no flying was done due to the smokey conditions.

Helicopter Use

Fire	Number of Ships	Flight Hours	Gallons Dropped	Pass. Carried
Silver	25	2033	1,918,000	6951
Longwood	12	363	492,000	304
Galice	8	123	12,000	177
Total	45	2519	2,422,000	7432

Included in the number of ships for Longwood and Silver are 4 military ships, part of the Army contingent. Of the total gallons dropped, 555,000 were retardant, and the rest was water.

In addition to the helicopters, 11 fixed-wing retardant aircraft flew 94 missions, dropping 253,000 gallons of retardant.



Resource Impacts

Fire intensities varied greatly. Low intensity areas burned on the ground, consuming ground fuels and killing some of the understory. High intensity areas were crown fires which killed 100% of the understory and overstory.

Burn Intensity by Percent of Fire Area

Fire	Low	Moderate	High	No Burn
Silver	54	33	12	1
Longwood	30	43	27	0
Galice	45	34	17	4

Consumption of forest fuels is estimated to have been 5.3 million tons. This is equivalent to 50 years of prescribed burning on the Siskiyou National Forest.

The following is a summary of some of the impacts of the fires. Included in the dollar loss figures are rehabilitation costs, damage to fisheries resources, loss of established plantations, and the value of the merchantable timber killed. The salvage of fire-killed timber will reduce the amount actually lost.

Fire	Timber Killed (MMBF)	Plantations Killed (acres)	Dollar Loss
Silver	262	17	$36,152,000
Longwood	40	1058	$7,376,000
Galice*	15	342	$2,663,000
Total	317	1417	$46,191,000

*National Forest lands only.

Siskiyou National Forest